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EPSON Connection

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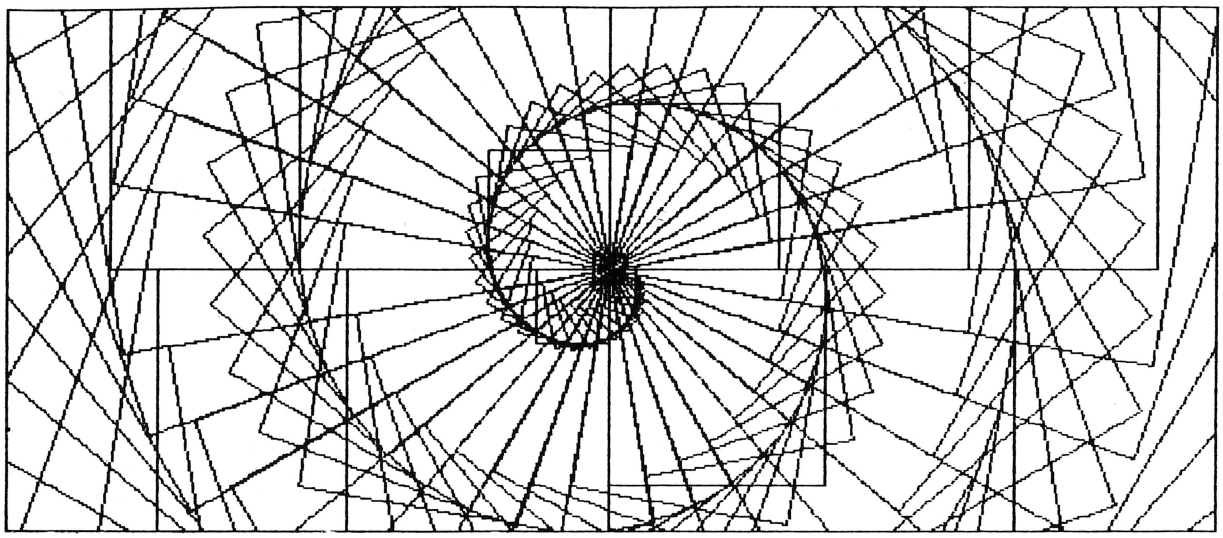

This graphics illustration was created using TELOS X - - Programming Environnment Demonstration Version 0.40 10/27/83 09:43, Copyright 1983 by Rising Star Industries. This program has been given to the public by R.S.I. and is available on the Epsonet Bulletin Board.

```
: SQUARE 4 #DO 90 TURN DUP DRAW LOOP DROP ; ok
1100 50 DO I SQUARE 10 TURN 10 /LOOP ok
.SCREEN
```

We continue to welcome new members from the U.S. and around the world. Our three newest members located in foreign countries are in Bahrain, which is an island located in the Persian Gulf, Ushaia Argentina which is at the southern most tip, and a new member in Saudi Arabia. We are pleased to have a growing users group in Hawaii.

The responses regarding advertising were all positive, and we will be pleased to include it in all future issues, bear with us while we get things set up.

The Epson Connection is part of a group across the country setting up an Electronic Bulletin Board System for users. This group is called 'Epsonet', information about this system will be a regular feature in this newsletter. The response to start local users groups has been tremendous. We will be assisting you in starting groups through this newsletter, and will include information from groups already underway.

The Epson Connection will be published monthly beginning with either the June or July issue !!!!!

COMDEX NEWS— We attended the Comdex show in Las Vegas. Inside this issue are details of some new products relating to the Epson computers. The highlights at the Epson booth were exciting. The 8088 internal board for the QX-10 was shown running Lotus 1-2-3. The company responsible for this board is Titan Technologies. QX-10 owners will be able to run MS-DOS programs, as well as many PC-DOS programs.

A new letter quality dot matrix printer, the LQ1500, was introduced by Epson. This is a 24 pin dot matrix printer. EpsonLink, a telecommunications product on a ROM chip, was demonstrated on the HX-20. The TF100 dual disk drive unit and the display controller were both attached to the HX-20 and to a full CRT format. Software demonstrated with the QX-10 was: the Peachtree 5000 series, QPlotter, Accounting Partner, and the Computer Assisted Sales Training program (CAST).

Outside the Epson booth, QX-10's were multiplexed together with hard disk drive units by Cameo, ICE and Micromite as well as a new 10M hard disk from QuCeS.

There were some nice durable carrying cases available to pack the QX and HX for traveling.

The crowd was estimated at over 80,000, with more than 1200 exhibitors in 5 different buildings. I had the pleasure and honor of meeting three important people in our Epson computing world. Mr. Y. Tsubota, the President of Epson America; Mr. I. Hattori, Chairman and Representative Director of Epson Corporation/Japan and Chairman of the Board of Epson America Inc.; and, Mr. N. Hattori, Managing Director of Epson Corporation/Japan and Director of Epson America Inc.

While at Comdex, I was swept off my feet by the charismatic charm of the entire RSI staff. This is an incredibly talented group of individuals under the leadership of Chris Rutkowski. The promises of greater things to come with future Valdocs versions, or levels, certainly are getting closer and more concrete each day. We look toward spring for Valdocs 2.0 with great anticipation.

It was certainly nice to see that "Interface Age", December 1983, included the Epson QX-10 in their list of the "Most Talked-About Products of 1983".

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Advertising will be a regular feature in the Epson Connection effective with the March/April issue.

As you are all aware, we are a National Users Group. Our newsletter has received much notoriety in the Epson computing world and we are thrilled that you love us so much. However, it does create some problems trying to staff such an operation and keep our prices at a minimum.

We will be getting advertising rate cards out to you as soon as humanly possible, and we have added the following phone number to take advertising calls. I am sorry that I cannot be available to answer all your calls, but if you will leave a message, I will return your call as quickly as possible. You should be able to reach me most days between the hours of 3:30 pm and 8:00 pm (EST).

Thank you for your understanding and cooperation.

Maureen Mertz, Advertising Manager; The Epson Connection, P.O. Box 184, Novi, MI 48050. [redacted] *(313) 348-9413*

RUMORS

This months rumors are in the form of a New Years wish list.

Valdocs Version 2.0 with all good speed.

Color Monitor, they already have it in Europe.

Portable Epson printer to go with the HX-20.

Full music synthesizer capabilities, like the system from RolandCorp, for the QX-10.

3-D Adventures by W.V.

HELP WANTED

I purchased a QX-10 and wish to interface it to my HAM radio for the purpose of copying CW and RTTY. Whatever help anyone can give will be greatly appreciated. Glen Fuller, Box 765 USCG S/C, Kodiak, Alaska 99619.

Epson America, Inc., is on compuserve. The sysop is Jessica Hatch of Epson. Their service states they will have: News and Reviews, Answer questions, Info Swap, User Group News, Business information, and a Fun-For-All section. They are going on line Jan 16th with this service. You will find this service by a command: GO PCS-19 at the Compuserve command line prompt.

FUTURE COMDEX SHOWS

1984

April 5 - 7 . . . . . .Los Angeles, CA
May 22 - 25 . . . . . Atlanta, GA
Oct. 29 - Nov. 1 . . . Amsterdam, Neth.
Nov. 14 - 18 . . . . . .Las Vegas, NV

1985

March 26 - 28 . . . . . Tokyo, Japan

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SQUEEZE AND UNSQUEEZE

**Notice, because of the limited space on two 376K disk drives, many of the bulletin boards will have SQUEEZED files on them. A squeezed file is indicated by a Q in the middle position of the filename extension.

.DQC— is the filename extension for a squeezed DOC file
.TQM— a squeezed TPM file
.CQM— a squeezed CPM file

These files cannot be read or run easily while they are in this squeezed form. The purpose of squeezing files is to compress them for faster transmission by modem, and also to save space on a disk for other files.

Most files can be squeezed, but program source files and text files benefit the most, shrinking by as much as 35%. Squeezed files will look like gibberish. The file on our bulletin boards called SQ-17.CPM or SQ.CPM is the program that will squeeze the files, and USQ-19.CPM or USQ.CPM is the program that will let you unsqueeze your files. It is really easy to do— so never fear.

Transfer a copy of both SQ and USQ to your disk. When using Valdocs, exit to TPM through MENU (remember, you will need to be in an advanced experience level). You will have transferred the file onto your B disk either using zpip and copying it from another disk, or by having received it from over the phone line and storing it (as a non-indexed file). (Note— there are numerous ways to run programs, copy them, etc. I find this is a fairly straightforward way to do it.) Rename these files with a .COM extension as follows:

B] REN SQ-17.COM=SQ-17.CPM

This will rename the .CPM file to a .COM file which can now be used. This will work in both TPM or CP/M. The next step is to unsqueeze a file. Let's unsqueeze a file called xxxxx.DQC (like TELOSDEM.DQC, or MDM712.DQC). The process is like this:

B] USQ B:xxxx.DQC

The screen will then indicate:

xxxxx.DQC—] xxxxx.DOC:

and you are all done. You may want to erase the squeezed version from the disk:

B] ERA xxxxxx.DQC

That's all it takes. If you have any problems or questions, call or write.

Starting A Users Group, Part 1

by Ronald Lippitt, Prof. Emeritus, Univ. of Mich.

Two of the most active current images of our future society and way of life are "Support Groups" and "Intergroup Networking". This Newsletter has offered the challenge and opportunity of forming cluster groups, or support groups, of Epson owners. The possibility of computer linkage of these support groups was also mentioned.

WHAT MIGHT A "GETTING TOGETHER" LOOK LIKE?

In the various support groups, I've been part of, things look something like this:

1. Two of us decided we'd like to try starting something. We got a list and divided up names to call. Our invitation was for just one tryout session to see whether people liked the idea and wanted to develop something.

2. We prepared refreshments and prepared a tentative agenda for discussion which we had on a sheet on the wall. This agenda sheet said:

   Who are we and what do we do?
   What kind of equipment and how do I use it?
   What have we discovered recently that's fun?
   What question am I trying to find an answer to?
   Would we like to get together again? How often? Where?
   What would we like to do next time (if we want to meet)?
   Who is convenor for that session?

3. As the seven people arrived at one of our homes, we gave them each a card and asked them to prepare an introduction of their "Epson partner"— their characteristics, capabilities, achievements, etc.

4. The co-convenors led the group through the agenda, with active discussion and enthusiastic sharing.

5. At one point, they came to an important "brainstorm" challenge. One of them said, "I just haven't figured any good ways to get my 10 and 13-year old children interested in using a computer for anything other than games. Could we take a few minutes for a brainstorm on all the ideas you can think of? Fortunately, one of the group knew the rules of brainstorming which are crucial to get out all the ideas in everyone's head. They wrote them up to remind themselves:

Rules of Brainstorming:

1. Say everything that comes into your head. There is no such thing as a "bad" idea.
2. Do not discuss. This is a difficult temptation. Discussion is the big killer of productive brainstorming.
3. No judging anybody's ideas, e.g., "That won't work", "We tried that", etc.
4. Piggy-backing on someone else's idea is encouraged.
5. Expect little silences. Comfortable silence helps mobilize another burst of creativity.

WHY GET TOGETHER

When they got to this item on the agenda, the group was comfortable and warmed up. The ideas they shared were:

"I need somebody to talk to about what I'm doing, and the problems I'm struggling with."

"I want to find someone interested in working with me on a software idea."

"I want a chance to share ideas and experiences about how we are using our computers."

"I want help on figuring out the best equipment to buy— what software, what modem, etc."

This discussion ended with the group deciding that they would like to meet once a month for a while, in different homes, with the host and one other person as co-planners and convenors of each session.

During the refreshment break, most of the group visited the host's Epson and shared notes on the uses of their machines.

Just before they adjourned, the convenors suggested a pooling of ideas for the next meeting, as guidance for the next convenors in planning their meeting. An invitation of the place of the next meeting was accepted and the host recruited someone else to co-plan with him. Two persons mentioned other potential members they planned to invite.

(In the next issue, we will visit the next meeting, seeing how it was planned, how it was led, what happened, and the beginnings of intercluster communication and use of the Epson Connection Newsletter.)

EPSONLINK FOR THE HX-20

Previewed at Comdex was the new communications program for the HX-20. EpsonLink is housed on a plug-in ROM chip. It can be used to exchange information and programming with other computers, and can access The Source, CompuServe and Dow Jones News/Retrieval. It comes with a text editor for preparing, storing and printing documents and programs. Single keystroke commands allow the user to communicate with virtually any asynchronous remote date transmission system and to alter the bit transmission rate, number of stop bits, duplex operation setting, character lenght, transmission parity error checking, automatic line feed and virtual screen size. Suggested retail price is $49.95.

Two Steps Forward — One Step Back

by Doug Porath, Microprocess Comp. Systems, Inc.

In the last issue of the Epson Connection, I wrote about communications using the HX-20 and QX-10. In retrospect, some of the things in the article may have been less than clear. Therefore, in this issue, I will define some of the more obscure terms (and some of the not so obscure terms for clarity) and attempt to clean up any misunderstandings that may have arisen.

There are three basic elements that are helpful in understanding telecommunications. These are: ASCII (or American Code for Information Interchange), Serial Communications (or Information Transfers) and Modems (Modulator/Demodulators).

ASCII

ASCII coding for characters has been around for a long time. In a nutshell, there is a character (or function) assigned to all of the numbers from 0 to 127 decimal. These numbers correspond to 7 ordered binary digits (0000000 to 1111111). Table 1 may clarify the relation between the ASCII Codes, the numbers 0 to 127 decimal and the corresponding binary numbers.

I will use the decimal numbers from now on in this article, although Binary (or Hexadecimal, which is shorthand for Binary) gives a more accurate description of the character in the computers memory.

The first thirty-two (0 to 31) of these ASCII Codes are referred to as control codes or non-printable characters. Because they are not printable does not reduce their value. Included in these non-printable codes are: Carriage Return (13 decimal, to cause the cursor, or print-head, to return to the beginning of the line); LineFeed (10 decimal, causing the advance to the next line); and ESCape (27 decimal, often used in formatting printer output or cursor positioning). These codes are ordinarily generated from a computer keyboard by holding the control key down and pressing the key in the same row and four (4) columns to the right in Table 1.

MOST SIGNIFICANT

LEAST SIGNIFICANT HEX / BIN	8 / 0000	1 / 0001	2 / 0010	3 / 0011	4 / 0100	5 / 0101	6 / 0110	7 / 0111
0 / 0000	NUL / 0	DLE / 16	SP / 32	0 / 48	@ / 64	P / 80	` / 96	p / 112
1 / 0001	SOH / 1	DC1 / 17	! / 33	1 / 49	A / 65	Q / 81	a / 97	q / 113
2 / 0010	STX / 2	DC2 / 18	" / 34	2 / 50	B / 66	R / 82	b / 98	r / 114
3 / 0011	ETX / 3	DC3 / 19	# / 35	3 / 51	C / 67	S / 83	c / 99	s / 115
4 / 0100	EOT / 4	DC4 / 20	$ / 36	4 / 52	D / 68	T / 84	d / 100	t / 116
5 / 0101	ENQ / 5	NAK / 21	% / 37	5 / 53	E / 69	U / 85	e / 101	u / 117
6 / 0110	ACK / 6	SYN / 22	& / 38	6 / 54	F / 70	V / 86	f / 102	v / 118
7 / 0111	BEL / 7	ETB / 23	' / 39	7 / 55	G / 71	W / 87	g / 103	w / 119
8 / 1000	BS / 8	CAN / 24	(/ 40	8 / 56	H / 72	X / 88	h / 104	x / 120
9 / 1001	HT / 9	EM / 25	) / 41	9 / 57	I / 73	Y / 89	i / 105	y / 121
A / 1010	LF / 10	SUB / 26	* / 42	: / 58	J / 74	Z / 90	j / 106	z / 122
B / 1011	VT / 11	ESC / 27	+ / 43	; / 59	K / 75	[/ 91	k / 107	{ / 123
C / 1100	FF / 12	FS / 28	, / 44	< / 60	L / 76	\ / 92	l / 108	| / 124
D / 1101	CR / 13	GS / 29	- / 45	= / 61	M / 77	] / 93	m / 109	} / 125
E / 1110	SO / 14	RS / 30	. / 46	> / 62	N / 78	^ / 94	n / 110	~ / 126
F / 1111	SI / 15	US / 31	/ / 47	? / 63	O / 79	_ / 95	o / 111	DEL / 127

Table 1: The ASCII character (or function if more than 1 character) appears in the upper left hand corner of each box. The corresponding decimal value is in the lower right hand corner. The binary code for a particular character is formed by placing the 4 binary digits that appear along the top of the chart to the left of the bits that appear along the left side. Example: the binary code for "M" is 01001101, which was formed by placing the "0100" that appears at the top of M's column in front of the "1101" that is to the left in M's row. The hex notation for "M" is 4D and was formed in a similar manner.

As an example, control-M generates the same code as a carriage return (CR, decimal 13); and control-H is a back space (BS, decimal 8).

In a Microsoft Basic Program, most of the non-printable codes can be produced with the CHR$(n) function within a program. This can be used in a print statement to send the characters to the screen or to send them to the printer. When used in a program, the "n" in CHR$(n) would be replaced by the decimal number from Table 1 representing the particular code desired. As an example CHR$(27) generates an "ESCape" code.

SERIAL COMMUNICATIONS

I feel the best way to describe Serial Communications is by analogy. First, imagine two people, separated by some distance, trying to communicate, but having only a flashlight (each). In order for this illustration to work, however, both must have agreed to a particular timing for each part (bit) of the character being sent. This corresponds to the baud rate. The baud rate is simply the number of bits (binary digits, "1"s or "0"s) that are being transferred per second. For our example, let us show how the transfer of the code for the character "A" which is 65 decimal or 1000001 binary. Since we are doing the transfer, we will let one second be our timing for each binary digit (bit). This corresponds to a baud rate of 1 (or 1 bit per second). This timing is actually 3.33 ms (3.33/1000 of a second) per bit for 300 baud operations.

All serial (asynchronous) transfers start with a start bit so that the receiver will know that a character is about to be sent. Our analogous sender would then turn his flashlight on for one second indicating the start of a character to be sent and the receiver would note the time (or start a stop watch) when the light first went on. After the start "bit", the sender would turn his flashlight on or off corresponding to the bits currently being transmitted. For "A", this bit pattern is one second off (for the left-most "1" in 1000001), 5 seconds on (5 bits x 1 second each), and then off for one second (for the right-most "1"). The light would then be left off for at least one second indicating the end of the transmission. This last one second period is referred to as the stop bit. Normally, 8 bits for each character are used, plus a start bit and a stop bit. This yields a total of 10 bits transmitted for each character. For our example (1 bit per second) the transfer rate would be 1 character every ten seconds. At 300 baud, 30 characters per second are transferred.

The receiver uses the following procedure: After observing a start signal (start bit), he would wait one and one-half seconds from the time the light first went on, and then observe whether the senders flashlight was on or off at that point. This reduces the probability of looking just before or just after the sender had changed from one bit to the next, thereby reducing the error. The receiver would note whether the light was on or off (0 = on, 1 = off) and look again every second for the remaining 6 bits for the character. He would look again after 1 additional second for the stop bit. If he observed that the flashlight was still on, he would know that coordination had been lost and that the character received was erroneous. Had all things gone well, the receiver should have recorded the following bits: 1000001, which represents the letter "A" for our example.

The principle of serial communications described above translates directly to RS232 communication, except for considerably shorter times used for each bit. For 300 baud, the time frame for each bit is 3-1/3 millisecond or 0.00333 seconds. It is correspondingly less for the faster baud rates. Figure 1 is a graphic description of the voltages found on the transmit line of an RS232 connector. The time values correspond to 300 baud.

There are a couple more things associated with serial communications that I will touch on now. Often the number of bits for each character can be specified. If more than 7 bits (as in our example) are used, a 0 bit is ordinarily added to the left (or most significant bit). Most systems also have the capability of adding what is called a parity bit. This bit simply adjusts the total number of "1's" in the Binary code to an even or odd number (corresponding to even or odd parity) at all times. This can be used to insure that a mistake has not been made in transmission of the character. If the receiver is set for even parity, as an example, and receives data with 3 "on" bits (i.e. 10000011), it will know that there had been a problem in the transmission of the character. Most systems that use parity, however, actually do nothing with it since there is no way to determine what the correct character should have been. The last option that serial systems may include is the number of stop bits. Using our example above, the stop bit has the same duration (1 second with the flashlight off) as the other bits. Some systems use 1-1/2 or two stop bits. In our analogy, this would simply mean leaving the flashlight off for one and one-half or 2 seconds before starting the transmission of a new character.

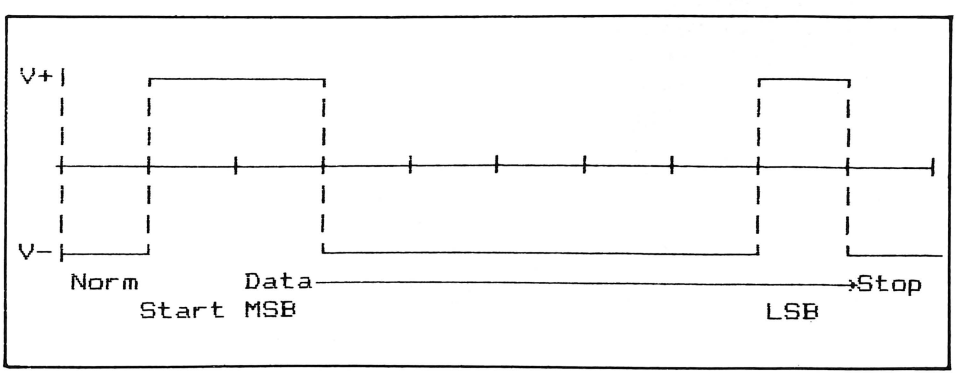


Figure 1: The divisions on the horizontal axis represent the timing for each bit. For the example used, these would be 1 second. For 300 baud, they would be 0.0033 seconds.

Two Steps Forward

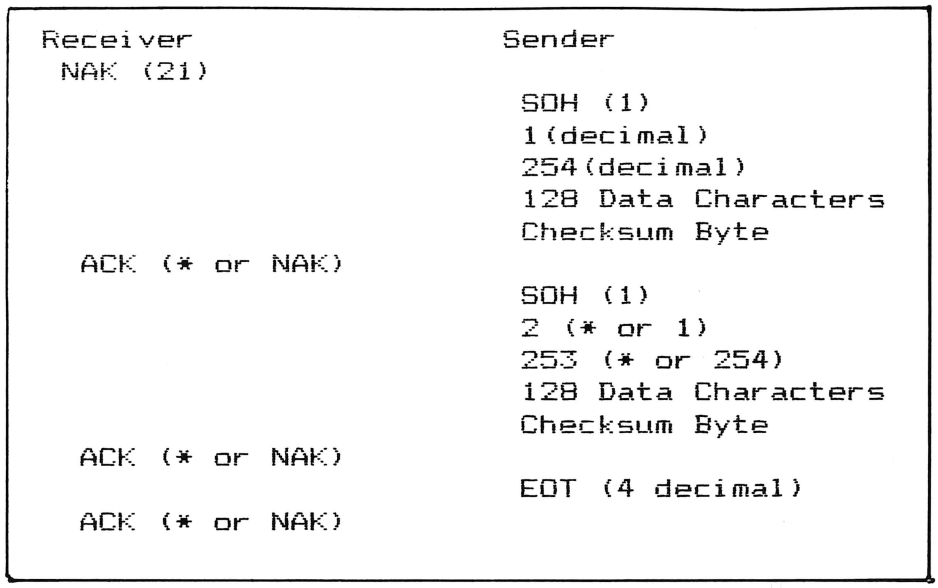


Figure 2: When an error is detected by the receiver, an ASCII NAK character is sent back to the sender. The block in which the error was detected is then re-sent.

MODEMS

First, there was an excellent article in the December issue of POPULAR COMPUTING, entitled "Talking in Tones" by William Barden Jr., that I highly recommend on this subject.

Now let's briefly take a look at modems. The word modem comes from MOdulator/DEModulator. A 300 baud modem merely takes the RS232 serial information coming into it and produces an audible frequency (modulation) that can be decoded (or demodulated) by another modem at the other end of the telephone line. This method must be used since most telephones do not actually connect to one another with a single piece of wire.

A modem has a constant tone output when it is on line, which effectively corresponds to no RS232 input (or the flashlight being off). This constant tone is referred to as the carrier. The method for transferring information up to 300 baud is termed FSK (Frequency Shift Keyed). This comes from the fact that the frequency being produced by the modulator part of a modem changes (shifts) according to the current bit being transmitted. For 1200 baud, a phase shift keyed (PSK) method is often used, which for the sake of brevity, I will not describe at this time. There are actually 4 different frequencies used for 300 baud. The originator indicates "1's" with a frequency of 1070 HZ and "0's" with 1270 HZ (the carrier). The answer indicates "1's" with 2025 HZ and "0's" with 225 HZ (the carrier). The "carrier" frequency is the one produced when no character is being transmitted, for stop bits, and for all "0" bits within a character. These frequencies were chosen because they create the least interference with one another. They are also considerably lower than the 3000 HZ limitation that the telephone lines themselves impose.

CHRISTENSEN PROTOCOL

When two computers are "talking" to one another, there is always the possibility for information to be misinterpreted. This is not too critical for text, but in a program, the change of a single bit could be disastrous. In the late 1970's, Ward Christensen described and wrote a program for CP/M computer systems that would provide considerable safeguards against erroneous information being received during the transfer from one computer to another. This program is available for virtually all CP/M systems for, at most, a copy charge ($10.00 to $20.00), as it was designated public domain by Mr. Christensen when written. The program is generally called Modem or Modem 7 and provides for the "framing" of data being sent and for the computer receiving the information to indicate correct or incorrect reception. The data to be sent is divided into 128 character blocks (referred to as records) and then each block is sent out in order. When sent, each block is prefaced with 3 characters: a character indicating the start of a block (ASCII SOH); and 2 characters indicating the block number being sent. Following the actual data (128 characters), is another character called a "checksum byte". To a limited degree this character defines whether all of the preceding data had been received correctly. See Figure 2 for a graphic illustration of the normal transfer sequence.

The Mail Program in VALDOCS uses a modified form of this procedure to send and receive electronic mail automatically. Ordinarily, the first record (block) to be sent by the Modem 7 program is record number 1. VALDOCS first tries to send a record number 0 that contains sender identification information in the "MAIL" program. If another QX-10 (VALDOCS) is receiving the file, this record will be accepted and the information in it used to show the receiver who, when, and what was sent. Other CP/M systems will ordinarily reject this record, but after 3 attempts, the sending QX-10 will automatically proceed to the conventional No. 1 record.

It should be noted that virtually all Christensen protocol transfers use 8 bit, no parity data formats. Most modem type programs also include a time out, so that, if for some reason, the lines are disconnected, a character is lost, or more than 10 faulty attempts made (during the transfer of a particular record), the transfer is aborted.

I hope that I have reduced any confusion that may have been generated in my past article.

How Sweet It Is

With A COMREX CR-1510 Hard Disk

by Hal Posey

I received my COMREX CR-1510 Hard Disk about two weeks ago and, let me tell you, I don't know how I ever got along without it. I have hesitated at getting a Hard Disk because I thought it would be a bear to install. Not so! I found it to be very easy. The Users Manual furnished by COMREX is very useful and almost complete. I say "almost" because there are one or two holes in the information furnished.

The changes that should appear in the instructions are: instruction IV subparagraph I. do not enter "type", but enter B:SYSBLD. This program will read the System tracks on drive A; relocate CCP and BDOS down 2K; attach latest version of BIOS and write the composite system on the system tracks of drive B. Subparagraph I. should first say "Turn on Hard Disk —" before you proceed. Under step VII use the CP/M boot disk you made in step IV for this part.

When you have finished following all the steps involved you should be able to boot your Hard Disk from the left (A) drive either in CP/M or VALDOCS. First turn on your COMREX CR-1510 and wait about 30 seconds. Then with your boot disk in the "A" drive turn on your QX-10 and watch how fast everything happens. When your data is spinning at 3600 revs per minute versus 300 RPM, things happen faster (even mistakes).

One word of warning— be sure you read your Users Manual from cover to cover and read the VALDOCS files on the diskette that comes with your COMREX CR-1510 before you do anything and always run HDSIT program before you turn your Hard Disk off. HDSIT moves your read head to the inner-most tracks of your Hard Disk so no damage can occur to your data, should your Hard Disk receive a very hard jolt for some unknown reason.

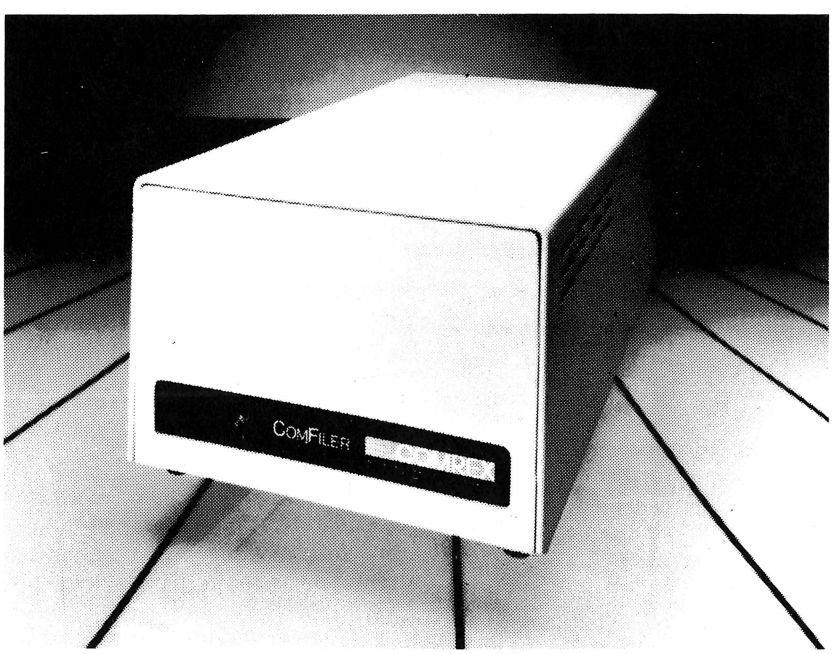
In about an hour and a half you should have your COMREX CR-1510 up and whirring away.

Some Hard Facts About The Comfiler CR-1510

	Hard Drive	QX Floppy Drives
Capacity—	10 Megabytes Formatted	376Kbytes Each
	12.76 Megabytes Unformatted	500Kbytes Each
Transfer Rate—	5 Megabits per second	250K bit/sec
Access Time—		
Track to track	3msec	15msec
Average	85msec	220msec
Settling time	15msec	15msec
Rotational Speed	3600 RPM	300RPM
Recording Density	9074 BPI	5876 BP Inch
Heads	4	2 each
Cylinders	306	
Tracks	1224	40
Power	35 W (120 BTU/HR)	9.7W each
Weight	12 Lb (5.42 kg)	

Hard Disk Drive Dimensions— 7-1/2 in. wide x 5-1/4 in. high x 14-3/4 in. deep.

The Hard Disk Winchester drive comes with a circuit board that goes inside the QX-10 in one of the 5 expansion slots with a ribbon cable attaching it to the Hard Disk. Included also is a manual and a disk. Produced by Comrex International, Inc., 3701 Skypark Drive, Suite 120, Torrance, CA 90505. 213-373-0280, Telex 664-859. Suggested List Price $2450.00.



FinalWord Part II

by Dan Rourke, University of Michigan

To get to the more complex functions of **FinalWord** you must either type a three character sequence beginning with a Ctrl/X (for extended menus) or associate the function with one of the function keys. Upon typing Ctrl/X, you are presented with a menu giving a selection among nine other sub-menus. A sub-menu is selected by typing the first letter of the sub-menu name. For example, F displays the Files sub-menu. A command is selected by typing the first letter of its name. For example, S will Save the current, "active" buffer in its associated file. The second and third letters can be typed with either Shift or Ctrl depressed. If the three letters (Ctrl/X-F-S) are typed quickly enough, none of the menus are displayed. They are shown only if you pause for a few seconds between key strokes.

The complete set of menus and commands is listed in the following table, along with a short description of what some of the less obvious commands do. As you can see, the editor, FW.COM, is very, very complete.

All of this is not to say that **FinalWord** doesn't have warts— it does, but not too many. The editing "feature" which I find most annoying is what is involved in copying or moving blocks of text from one point to another. The first step is to set a marker at either end of the block of text to be moved or copied. Then you move the cursor to the other end of the block. If a copy operation is to be performed, the text between the mark and the cursor is copied into the KILLS buffer. If a move is to be done, the text is *deleted* and is moved into the KILLS buffer as a "by-product" of the delete operation. The next step is to move the cursor to where the text is to be moved or copied. Finally, the text is undeleted which copies it from the KILLS buffer to the cursor position. The text which was after the cursor is "pushed" further back in the file by the text being copied from the KILLS buffer. What I don't like is the fact that it is difficult to see the text between the mark and the cursor— it is not highlighted in any way. In addition, I am always leery of deleting any text in order to do anything to it.

On the other hand, the KILLS buffer, where most deleted text goes, does provide a very effective "undo" facility. Any block of text larger than a single character deleted by a backspace goes into this buffer. I have printed the KILLS buffer in caps because this is one of the two buffers which **FinalWord** will not let you delete. All of the other buffers, which have lower case names inside of **FinalWord**, can be deleted when you are done with them and their contents have been written to their corresponding files.

Using **FinalWord** as a "What You See ..." Word Processor

Using **FinalWord** as a word processor is quite simple. You just use the editor to make the text look the way on the screen that you want it to look on the printed page. Then type the function key associated with Print (not Advanced Print— that's how you get to the formatter). **FinalWord** will write the text to the file from whence it came, if necessary, and then pass the text to FWP.COM, the printing program. The printer will allow you to specify the size of the left margin and tab interval in characters, and then print the text.

One very nice feature is that it is possible to highlight certain text and have it appear highlighted in the display and on the printed page. The CRT display available under CP/M allows highlighted text to be shown more brightly than other text. Depending upon what your printer is capable of doing, highlighted text can be printed as underlined, bold, or whatever. The appearance of highlighted text on the printed page is set using CONFIG.COM.

The **FinalWord** Formatter

If the "what you see" mode is not adequate, or if you want page headers, and footers along with a table of contents and an index, then the formatter, FWF.COM, may produce text to your liking. Then again, it may not. I'll discuss this at the end of this section.

The formatter takes free-form input and produces "polished" output. Unlike a word processor, the input text to a formatter may bear little resemblance to the printed output, and some find this disconcerting. On the other hand, a formatter can usually produce more elaborate output than can a word processor. An extreme example is a formatter which drives a phototypesetter to produce a two column layout for a book. (No, **FinalWord** can't drive a phototypesetter, yet ...).

Unless the text is contained in an *environment*, the formatter operates by going through the file collecting the words into lines of a specified length and justifying the lines, if requested. The lines are collected into paragraphs and printed with a specified amount of white space between one paragraph and the next and with a specified indentation amount. When a page fills up, it is printed with left, right, top, and bottom margins. The amount of space between paragraphs, the size of the paragraph indentation, the size of the four margins, and nearly every other page dimension is adjustable. Simply by doing nothing other than leaving a blank line between the end of one paragraph and the beginning of the next you can obtain nicely formatted output with a default footer for each page (a centered page number between dashes).

The formatting commands are signalled by a commercial "at" sign, "@", and there are several varieties of commands:

(a) commands which specify the page layout including sizes of various margins, line spacing, inter-paragraph spacing, headers, footers, etc.
(b) commands which indicate and delimit a micro or local "environment", such as a @b(bold) or @i[italics] font or a @+(super-) or @-(subscript); (Note how the type of local environment is indicated in the text and how it is delimited.)
(c) commands which indicate the type and range of a macro or global environment;

FinalWord eXtended Commands

Command	Description
Buffers menu:	
Delete buffer	deletes the text most recently switched from or the named buffer; asks for confirmation if the buffer hasn't been saved
List buffers	lists current test buffers and their associated files
Previous buffer	switches to the most recently switched from buffer
Switch buffer	switches to a named buffer; one is created if it does not exist
Z - exit menu	return to editing text
Capitalization Menu:	
Clear highlighting	turns off highlighting over the amount (character, word, line, paragraph, or buffer) and direction (forward or reverse) of the next cursor movement
Flip highlighting	flips highlighted text to unhighlighted and vice versa
Lowercase	makes all text lowercase over the amount and direction of the next cursor movement
Set highlighting	highlights all text over the amount and direction of the next cursor movement
Uppercase	makes all text upper case over the amount and direction of the next cursor movement
Z - exit menu	
Files menu:	
Backup and save file	save your text and makes a duplicate copy of the file containing it
Directory edit	displays the directory of any drive and allows files to be erased, renamed, or selected for editing by **FinalWord**
Find file	reads a file into a new text buffer; the buffer name is the same as the file name
Read file	reads a file into an old text buffer
Save file	saves the contents of the current, "active" buffer into its associated file
Write file	writes the contents of the current buffer into any file you name
- exit menu	

Command	Description
Help menu:	
Explain key	gives a description of what any Ctrl/ letter or function key does
Help about	explains various **FinalWord** "concepts"
Remove help buffer	removes the help text from the swap file
Z - exit menu	
Layout menu:	
Advanced print	runs the advanced formatter and printer
Center line	centers the cursor line between the left and right margins
Fill paragraph	fills in words between the margins as much as possible but does not justify the text
Justify paragraph	as above but with extra blanks added between words to fill each line to the margin
Left flush line	aligns the cursor line to the left margin
Print	invokes the printer (FWP.COM) bypassing formatting; used with the "what you see is what you get" method of using **FinalWord**
Right flush line	aligns the cursor line to the right margin
Unjustify paragraph	removes the extra blanks between words added by the Justify command
Verify advanced print	displays the output of the formatter on the CRT display
Z - exit menu	
Miscellaneous menu:	
Abort printing	cancels the on-going printing (you can print and edit with **FinalWord** as the same time)
Center point	puts the cursor in the middle of the screen
Display refresh	rewrites the current screen, but without any messages which may have been printed by CP/M
Exit editor	returns to CP/M; asks for confirmation if the current buffer has not been saved since being edited
Global replace	replaces all occurrences of one string with another from the cursor to the end of the file
Line count	displays the number of the cursor line and the total number of lines in the buffer
Query replace	same as Global replace, but asks for confirmation for each change
Report position	displays the cursor position as the number of characters the cursor is in to the buffer, the total number of characters in the file, and the cursor column position
Z - exit menu	

Command	Description
Regions menu:	
Append to KILLS	
Copy to marker	copies the text between the cursor and the marker to the special KILLS buffer
Delete to marker	copies the text between the cursor and the marker to the KILLS buffer and deletes it from the active buffer
Go to marker	moves the cursor to the marker, displaying the portion of text containing the marker
Indent	shifts all lines between the cursor and the marker to the right
Outdent	shifts all lines between the cursor and the marker to the left
Set marker	records the current cursor position as the new marker position
Undelete	copies the text from the KILLS buffer to the cursor position
Z - exit menu	
Set menu:	
Fill mode on/off	toggles Fill mode on or off; when Fill mode is on, word wrapping is in effect; when off, text may be entered past the right margin
Highlight mode on/ off	toggles Highlight mode on or off; when on, newly entered text is highlighted
Indent column	sets the left margin; usually this value is 0
Line length	sets the line length; usually this value is 60 or 65
Overwrite mode on/ off	toggles Overwrite mode on or off; when on, newly entered text pushes old text to the right
Report values	displays the Indent column, Line length, and Tab interval
Tab interval	sets the amount separating each tab stop; usual values are 3 and 5
Z - exit menu	
Windows menu:	
Grow window	enlarges the window containing the cursor
Move other	moves the text in the window not containing the cursor
One window	goes from a two window to a one window display; the window not containing the cursor is erased
Switch windows	moves the cursor from one window to the other
Two windows	switches from a one window to a two window display
Z - exit menu	

(d) some miscellaneous commands which don't fall into any of the preceding three categories, such as @include(*filename*) which inserts the contents of *filename* at the point of the @ include; these commands are referred to as directives in the documentation.

An environment is a place in the document where the text is to be laid out differently from the normal paragraph followed by paragraph arrangement described above. For example, there are several environments for constructing numbered or otherwise itemized lists. **FinalWord** provides over a dozen environments.

A major use of the directives is to provide section heading information. For example, @chapter(*chapter title*) is how a chapter title is specified. This directive causes quite a few things to happen: the *chapter title* is printed in bold beneath the chapter number (which was automatically increased by one) at the top of a new page and the *title text* is inserted in the table of contents along with the page number where the chapter starts. **FinalWord** provides up to four levels of sectioning with chapters (1), sections (1.2), subsections (1.2.3), and paragraphs (1.2.3.4); the numbering illustrated here is the type of numbering format with **FinalWord** uses.

The advanced formatting commands can produce very attractive printing. The **FinalWord** manual is an excellent example of just what the formatter can do. This nearly 400 page document was itself produced with **FinalWord**. However, the user does not have a great deal of control over the way text appears in the environments. For example, some users may find the numbering of chapters, sections, etc., unnecessarily "technical" but there is no way to disable the numbering short of not using the corresponding directives. This is unfortunate because these same directives do other nice things which a user may want to happen. As a further example, although there are several environments for preparing enumerated lists, none of them allow you to use letters [(a), (b), (c), etc.] to seriate the items. As you can see from this text, I happen to like to use letters rather than numbers for this task, but **FinalWord** won't let me use them.

One of the environments provided in the advanced formatter is the @verbatim (*text*) environment which does what its name implies– reproduce the text within the environment verbatim. I could use the editor to prepare letter-serialized lists and then enclose this text within the @verbatim environment, but this, of course, defeats the whole purpose of a text formatter (i.e., free you from having to worry about such things).

I wish that the authors of **FinalWord** had taken a different tack. I would have preferred formatting commands that did less along with a facility for stringing the basic formatting commands together to obtain a more complex formatting effect. This sort of approach would have endowed **FinalWord** with what is known as a "macro" facility. Essentially, all that a macro does is to replace simple patterns of text with more complicated ones– and more tedious to type.

In summary, if you like the appearance of the environments built into **FinalWord**'s advanced formatter, you

FinalWord

will be thrilled with it.

I should also mention that the advanced formatter will construct an index for you; simply include a term to appear in the index within an @index *(term)* directive. This may be worth the price of admission! Further, if your printer is capable of very small forward movements of the printing element and especially if it has proportionally spaced characters, **FinalWord** can do *true justification*— not simply the insertion of extra blanks.

Configuring **FinalWord**

FinalWord gives you an incredible amount of adaptability with respect to the idiosyncrasies of your computer and printer. **FinalWord** knows about more printers than any editor/word processor/text formatter that I know about. In addition to printers, **FinalWord** lets you extensively redefine the effect of the various function and cursor motion keys on the keyboard, adjust the parameters of the I/O port to which your printer is connected, specify the default editing parameters (e.g., tab interval, line length, fill [word wrap] or normal mode, etc.), and specify default formatting parameters (e.g., the amount of white space between paragraphs or environments).

All of this sort of information is kept in the file CONFIG.DAT which is larger than 16,000 bytes. Information within the configuration file is "edited" using CONFIG.COM (which links to CONFIG.OVR). The degree of control which the configuration file gives you over the way **FinalWord** looks to you and the way the printed output looks is quite remarkable. CONFIG.COM makes it fairly easy to adjust the many parameters to your liking. The adaptability of **FinalWord** is one of the strong points of the system.

The Documentation

The **FinalWord** documentation is almost 400 pages long. It contains the following chapters and appendices:

(1) an introduction;
(2) a nine lesson tutorial;
(3) the editor reference manual;
(4) the advanced formatter reference manual;
(5) an installation guide which describes how to use the configuration program (CONFIG.COM) to:
  (5.1) define and install a system terminal;
  (5.2) define, install, and alter a printer definition;
  (5.3) define, install, and alter a printer port definition;
  (5.4) alter the default editing parameters;
  (5.5) alter the default formatting parameters;
  (5.6) customize the keyboard layout.

(A) how to use RECOVER.COM to recover "lost" text from the swap file;
(B) a list of the **FinalWord** error messages;
(C) a glossary;
(D) the command line options for FW, FWF, and FWP; (This appendix is important and should be incorporated in a chapter or section describing the mechanics of using **FinalWord.**)
(E) the USASCII character set;
(F) an index.

The documentation is extensive and everything you need to know to use **FinalWord** effectively is contained in it— somewhere. New computer users are put off by the length of the manual; they don't read it, and then complain if the program won't do this or that when, in fact, it usually does. I don't know who is to "blame" when something like this happens. My feeling is that since the customer is spending up to $300 for the program, the fault lies with the authors of the documentation.

I feel that the manual should be reorganized with both the movement of some of the material to other parts of the manual and the addition of new material. The command line appendix really ought to be moved to an earlier point in the manual and fleshed out with more examples. I also believe that a subset of the editing and formatting commands should be described in a short (say 20 pages) chapter or section towards the front of the manual in enough detail to allow some use of the program by persons impatient for results.

Overall, everything is there but more efforts should be made with respect to the organization and integration of the material.

Some Recommendations

FinalWord is the best word processor/text formatter I have used— so far. However, it is not perfect. It doesn't always format the text the way I would like it to be formatted. I have heard good things about Edix/Wordix and, especially in several recent reviews, Microsoft's Word. My satisfaction with **FinalWord** is not great enough to stop me from looking at these new programs; however, I'll certainly continue to use it and to recommend it to others for now.

GRAPHICS WARNING

When addressing the 7220 Graphics Display Controller Chip (by NEC), do not send the following codes to the 39H port: 00, 0E, or 0F. These can modify the sync parameters in the monitor, causing an overcurrent condition which can blow the fuse in your monitor. Addressing the vertical and horizontal sync parameters in a basic program may cause some problems, so be cautious!

Readers have asked how to get in touch with the CP/M Users Group know as :CPMUG. Their address is 1651 Third Avenue, New York, NY 10028. They have an extensive library of public domain software, which is now available on the QX-10 5 1/4 inch format. Their catalogue is available for $10 prepaid to the U.S., Canada and Mexico; $15 prepaid to all other countries. (All checks are to be drawn in U.S. dollars on a U.S. bank). They have approximately 92 volumes of software. The volumes cost approximately $18.00 each.

How to Rebuild a Damaged Valdocs Data Disk

by Richard Rockwell, Tech. Support, MidAtlantic Computer Prod.

If you get one of the following error messages in VALDOCS: "Error on reading disk = 1:", and when you press any key, you get: "Disk/Directory is probably full.:", or "get free: free record (–) not deleted; rebuild list.: you probably have a damaged index which can be rebuilt by rebuilding the data disk, file by file (explained below).

If you get either of these error conditions, there is nothing wrong with any of the data in your VALDOCS files. All of your data and all of your files are still there on your data disk, but you can't get to them by any of the means which use the index to access them. You can retrieve them or copy them as non-indexed files using the non-indexed file name that VALDOCS assigned to them.

What's the difference between an indexed file and a non-indexed file?

Whenever you create a file in VALDOCS and STORE it, that file is assigned two names. One is a non-indexed file name made up of 8 characters with an extension of ".VAL". VALDOCS assigns this name to each file you create in VALDOCS. The other is an indexed file name: the name you assign to the file when you STORE it. The indexed file name can be up to two lines long. The indexed file name is the name that appears on your index when you press INDEX. The non-indexed file name appears on the disk directory which can be displayed either through the QUIRKS Menu or through the MENU key. You will not recognize the non-indexed file name; it is an 11 digit name referencing the date on which the file was created. The first two digits are the year, the next digit is the month (1 through 9 for Jan. through Sept., and A, B, C for Oct., Nov., Dec.), the next two are the day of the month, and the last three are which file it was on that particular day. If the number for the day or the file is only one digit, it will be preceded by 0's to make a two or three digit number. For example, the second file created on October 2, 1983 would have the non-indexed file name of 83A02002.VAL. Whenever you STORE, RETRIEVE, PRINT or MAIL a file, you use the indexed file name.

With 1.18 you can turn off your indexer

VALDOCS 1.18 gives you the option of turning off your indexer. When your indexer is off, you can give your files your own non-indexed file names, limiting them to 8 characters then a "." and a three character extension. The following are some examples of acceptable non-indexed file names: LETTER.DOC, JONES.BAK, 32.PRT. A file that has only a non-indexed file name will not appear on your INDEX and you cannot use the PRINT key to print it. You can retrieve a non-indexed file (using the QUIRKS Menu), STORE it using the STORE key, and it will be stored as an indexed file. You can retrieve or store a file as a non-indexed file under the QUIRKS menu. When you use COPY DISK, you have the option of copying from non-indexed files or indexed files to non-indexed or indexed files.

Rebuiding a data disk file by file:

There are several ways a data disk can be rebuilt. The following is one procedure. Briefly, this procedure uses the COPY DISK key, single file copy to copy each VALDOCS file from its non-indexed file name onto a new data disk as an indexed file. The following is the step by step procedure:

1. Format a new data disk, using the COPY DISK key.
2. Insert the damaged data disk in drive B.
3. Press COPY DISK and make the following choices:
   - Single file copy
   - Copy file
   - Non indexed file
   - Enter name of source drive: B
   - Place proper disk in drive (since the damaged data disk is already in, B, just hit RETURN)
   - The Directory of non-indexed files will appear on the screen
   - Move the cursor to the first VALDOCS file that you want to copy
   - Enter name of destination drive: A
   - Place proper disk in drive (insert the new blank data disk in drive A)
   - Store as: Indexed file
   - Copy to same name? (the original indexed file name will be displayed, if you want to keep the same name, answer "Yes")
   - Erase source file? No

At this point, you will be returned to the COPY DISK menu and you should repeat this procedure for the next non-indexed file. You need to copy only the files made up of numbers with the ".VAL" extension. Do not copy the files with abbreviated names such as: INDXALPH.NDX. If you have data in your Address Book or your Scheduler, you need to copy the following files (copy them to the same non-indexed file names):
ADRSBOOK. MAL
SCHD.DAT
SCHD.NDX

Epson International RBBS/RTPM Network "Epsonet"

by Ron Spatafora, Sysop: Dallas RTPM

Before we explain what the Epsonet is, we will first need to define some terms.

CBBS- Computer Bulletin Board System
RCPM- Remote CPM (System)
RBBS- Remote Bulletin Board System
RTPM- Remote TPM (System)

Note the similarities in the terms CBBS and RCPM. These are both electronic (computer) bulletin boards that run on the CPM operating system. These boards cater to the CPM users (of which the Epson QX-10 is a member). RBBS and RTPM refer to boards that function under the TPM-II operating system. This is almost an exclusive system of the QX-10. Why do we make these distinctions and how does it relate to the Epsonet? Follow closely as we take you on a voyage through the world of telecommunications.

Computer bulletin boards are systems consisting, in general, of a host computer, with storage medias (floppy drives or hard drives), a modem for interfacing with the telephone system and special software. These boards provide a public service. Anyone with a computer, modem and modem software, (such as Valdocs Mail), may call into the boards. The computer bulletin boards provide various features. The 'Epsonet' boards allow users to "upload and download" files and programs to and from the bulletin board computers. Download refers to the process of copying a file or program from the other computer, via your RS232 port (frequently via a modem), into your own computer. Upload refers to a similar process of sending a file or program from your computer to another computer via a phone line. A user can leave messages and questions for others, as well as receive them from others. These bulletin boards can serve as communication base around issues and topic areas. Most users find the boards across the country as a source of free, "Public Domain" software. All these services are provided free; of course, you pay the cost of the phone call.

Until now Epson users were limited to the CPM boards (RCPM, CBBS). Thanks to the hard work of many Epson owners across the country, there are now Epson QX-10s on line with their own bulletin boards providing HX-20 and QX-10 public domain programs.

'Epsonet' is the name chosen by a group of QX-10 owners being coordinated by Ralph Ruh from Ohio. This network of bulletin boards will be specific to Epson computer users. The purpose of a network is to provide users all around the country access to the same files without having to call across country long distance searching each board. The sysops (system operators) of the Epsonet boards will be keeping each other current with new public domain software from each part of the country as it becomes available. The bulletin boards will be standardized, with the only exception being the amount of storage available on the system. Some boards will have a hard disk used, and in these cases the number of programs and files will be more extensive.

HOW TO ACCESS THE BOARDS

Locate your local RBBS/RTPM board's phone number from the list that follows. You will need a modem and, in the case of the HX-20, a software terminal program. The QX-10 has a built in electronic mail program through Valdocs Mail. Use your Epson QX-10 or HX-20 to call the number and you will be greeted with the board's preamble: "Welcome to the ******* RBBS/RTPM". You will see the operating hours, who the sysop is and the board's sponsor. The equipment that the board runs under will also be listed. This will tell you if there is a hard drive available or the two standard 376K floppies. At this point we should make it very clear to all that these boards are run by individual QX-10 owners. These sysops receive no renumeration, and are extremely generous and dedicated individuals. Generous, as they give up their own personal use of their QX-10 for the hours they are on-line. Dedication is evidenced in the time they spend keeping their board up-to-date and running.

There is a Bulletins Section at the beginning of each board. This will tell you any important features of that board or news of special interest. You will arrive at the "login" section. You will be asked for your first, then last name. Next, you will have to enter a password, twice. This sets up a strictly confidential code that will permit you to send and receive private mail from other users or the sysop. Then comes the command section.

‹Time› – Command: B, E, S, K, G, W, T, U, D, X, P, # (or ? if not known):
If you select ? you will see the following display of supported functions:

S = Survey Messages
E = Enter message
B = retype bulletins
T = exit to CP/M
D = Toggle bell prompt
G = Goodbye (disconnect)
R = Read message(s)
K = Kill message
W = retype Welcome
U = list User File
X = expert user mode
P = Change PASSWORD
# = Retype message data

Commands may be strung together when separated by semicolons. For example 'R;123' retrieves message #123. For forward sequential retrieval, use '+' after msg#, 'R;1+'.

With a QX-10 you will note some video enhancements and blinking cursors. To enter messages you would type "E" and then follow the instructions.

To get to the files section where all that free software is, type "T" for TPM, and you will find yourself at another password question, only this time, you must know the password. The question asks what the operating system used with the QX-10 is. We do this to discourage non-Epson machines from gaining access. You will be asked if you wish to leave a confidential answer for the sysop. A "no" will take you to the next part. You will now have an A› The "A›" is just like the prompt on your machine, when you run CP/M or TPM. You are now on drive A at the host bulletin board. You can type DIR to discover what files are there. You might find it helpful to type "DIR" and then CTRL P, to turn on your printer, and then hit the return. This will list the directory for you on your printer. Type "B:"— You'll see "B› ". You are now on drive B of the board. Repeat the "DIR CTRL P" routine and get a hardcopy of the B directory. The next step is to decide upon a file that you want to receive on your computer.

You need to follow the instructions in the ValMail article or "Outside Valdocs" article in this newsletter. If you have finished and want to go back to the RBBS section, type "RBBS P". If you're done, type "bye" and the RBBS/RTPM board will automatically disconnect the communication link. If you are in the RBBS section and want to "hang-up", go to the command line and type "G" for goodbye, and away you go!

We will be providing updates through this newsletter about the various files and programs found on the Epsonet bulletin boards. Future articles will deal with user areas on the hard drives.

One feature that you will find most helpful is "Help". Type "help" on either drive of the system. Help will show you a menu covering almost all of the features of the board. Typing "chat" will ring the bell on the board's computer and alert the sysop that someone wants to "chat" about something. The sysop will respond if available at that time. The bulletin board screen shows everything you are doing, so if you are having problems, and suddenly receive help, chances are it wasn't a mysterious elf.

A list of the operating official Epsonet RBBS/RTPM boards will be published in each issue of "The Epson Connection" and on each Epsonet RBBS/RTPM board (as a file named: "RBBS/TPM.INF"). If there are any questions about the system, leave word on any board, we will get back to you as soon as possible. Note that if you have any questions for Epson America, they are arranging to go online to answer questions on Compuserve. William Volk, a Rising Star staff member, has been kind enough to answer questions on some of the boards. Rising Star also has a hot line number you can call directly with Valdocs questions (213/425-2890).

May all your RBBS/RTPM journeys be smooth and rewarding!

Our special thanks to: Bruce R. Ratoff who adapted this program from XITAN Basic also Howard Moulton; Richard Wheeler and Daniel Zehme, who have provided much assistance in modifying some of the RBBS/RTPM routines, particularly the Bye Program; and especially to Ralph Ruh for coordinating the whole Epsonet and spending hours setting up the new bulletin boards that are being added to this system. To each sysop around the country, we thank you for your dedication and participation.

THE EPSONET RBBS/RTPM

Florida

Northern Florida RBBS/RTPM
904-356-3274
300 Baud
William Cuartero, sysop
QX-10 w/two 376K 6pm-8am m-f

Southern Florida RBBS/RTPM
305-462-8083
305-523-2729
300/1200 Baud
Richard Wheeler and Dan Zehme, sysops
QX-10's with 376k 11pm-8am m-f

Indiana

Northern Indiana RBBS/RTPM
219-762-5620
300 Baud
Ralph G. Shaffer Jr., sysop
QX-10 w/376K 6pm-10pm m-f
10am-10pm Sat, Sun

Southeastern Indiana RBBS/RTPM
812-926-3396
300 Baud
Frank LaClair, sysop
QX-10 w/376K 7am-7pm Tue, Sun

Michigan

Southeast Michigan RBBS/RTPM
THE EPSON CONNECTION
313-823-1425
300/1200 Baud
Carolyn McCarthy, sysop
QX-10 w/376K —(Hard Drive soon)
24 hours

New Jersey

Sussex County RBBS/RTPM
201-875-2635
300/1200 Baud
Ken Mentzel, sysop
QX-10 w/376K daytime & weekends

Ohio

Northeastern Ohio RBBS/RTPM
513-548-3326
300/1200 Baud
Allen Howell, sysop
QX-10 w/376K 6pm-12pm m-f
Sat 1pm-12pm

**Central Ohio RBBS/RTPM
Epson RBBS/RTPM Network Coordinator
614-687-6413
300/1200 Baud
Ralph Ruh, sysop
QX-10 w/376K 24 hours

Southern Ohio RBBS/RTPM
614-774-6683
300 Baud
Tom Fosson, sysop
QX-10 w/two 376K 24 hours

Cincinnati RBBS/RTPM — coming soon

Wisconsin

Milwaukee RBBS/RTPM — coming soon

Madison Wisconsin RBBS/RTPM
608-233-3333
300 Baud
Geoffrey Turney, sysop
QX-10 w/two 376K 10pm-2pm

Texas

Dallas RBBS/RTPM
300 Baud
Ron Spatafora, sysop
QX-10 w/two 376K 6pm-6am m-f
24 hours weekends

Corrections to Bulletin Boards published in the Nov/Dec issue:

St. Mary's College is located in Baltimore, MD.

Apologies to Paul Yaron and Mid-Atlantic Distributing— and to Pre-Empt Computer Systems in Georgia— their numbers are for their computer dealers only.

CP/M & Telecommunications

by Ron Spatafora & Ralph Ruh

Ralph Ruh has been a hobbiest with computers for 10 years. He has an associates degree in Electrical Engineering. Ralph works wth data basic programming and structural languages. He is a ham radio operator and an Epson HX-20 and QX-10 user. Ralph is the sysop for the Central Ohio RBBS/RTPM, the coordinator for the Epsonet and an Epson Connection consultant.

Ron Spatafora is an Avionics Specialist with a degree in Aeronautical Engineering. He is an FAA licensed pilot and certified Airframe and Power plant mechanic. Ron is the sysop for the Dallas RBBS/RTPM Epsonet Bulletin Board, and also, an Epson Connection consultant.

Is there an "Epson-life" outside of Valdocs? Yes. Your Epson QX-10, depending on which version (64K or 256K) you bought, came with two "Operating Systems": Valdocs (Rising Star Industries, Inc.) and CP/M (Digital Research, Inc.). We will not deliberate on the workings of CP/M, but rather the world of telecommunications using CP/M.

If you purchased a modem that is compatible with the QX-10, then you have already discovered that you can communicate with the "outside world". Valdocs mail, supports uploading and downloading of files, terminal emulation for communications with other CP/M computers, and the ability to call into databases. QX-10 users are not limited to Valdocs mail. CP/M communication programs provide an alternative method of communication, which allows more advanced file manipulation not currently available in Valdocs mail.

A CP/M communications program? "Oh, no! another $150.00?". Wrong, within the "CP/M PUBLIC DOMAIN" community of FREE SOFTWARE are all the programs you will need. "MODEM 712.COM" is based upon the public domain standard Modem 7 series written by Ward Christensen. There are many varieties available for most popular computers. One of the most recent versions of the Modem 7 series is called MDM712.COM. MDM712 supports auto dialing, continuous auto dialing on a busy signal, and includes a library file of your most frequently called numbers. MDM712 also allows the use of MCI and SPRINT auto dialing. This article will focus our attention on MODEM712, which is available already configured for the Epson QX-10 and the Hayes Smartmodem.

The next question is how and where to get the modem programs. Most Epson dealers have a copy of one of these programs, and you can obtain a copy for the cost of copying it. If all else fails, you can send a blank disk, along with $6.00 to cover the copying cost and postage to Ralph Ruh, Ron Spatafora, or The Epson Connection. (See addresses listed at the end of this article).

Create a "Systems Communications Disk"

SIMPLE INSTRUCTIONS FOR MODEM712

First, lets make a copy of your CP/M resident operating system utilizing your "CP+" (Taurus Software, Inc.) program and create a "Systems Communications Disk". You may use "copydisk" and copy the system tracks onto a new formatted disk. Next, copy MODEM712 onto this communications disk, using either CP+ or PIP.COM to move the program. You should copy PIP.COM onto this disk also. Now you have a system disk setup for telecommunications. If you copied the CP+ files onto this disk, you may wish to delete them to conserve space.

Now take your communications disk and make a back-up copy. We are now ready to explore the world of telecommunications using MODEM-712 and CP/M.

1-Boot up your disk on Drive A. You want to be in CP/M at the A]. Type MODEM712 or whatever the name of your modem 7 program is. You are now at the command line of the program, which should look like this: A]COMMAND: Type "M" (or H for Modem 798) to see a menu of all the commands. Familiarize yourself with all the commands. The program defaults to certain values which can be viewed by entering "?" at the command prompt. Prior to establishing communications, you should always enter the "?" command to make sure you have the proper setup. As a standard for the BBS systems you will be calling, select the following options—select your baud rate, TLF, and TCC. TLF is for transmit line feed, and TCC sets up CRC checking. CRC checking is an option that guarantees you will receive the correct data from the BBS. The alternative to TCC is "check summing". Check summing checks the total number of bits of data transferred, but does not check the data itself. During file transfer, the same options must be selected on each transmitting computer, so if CRC is not utilized, then check summing may be used.

You are now ready to place your call. Locate the telephone number of a bulletin board you wish to call (see our list). You should still be in MODEM12 at the command line. Type the letter T (return), to enter the 'terminal mode'. The next step is to command the modem to dial the phone number. Type all in capitals AT (return, and you will see "OK". Now type ATDT and the phone number you want to call if you have a touch tone phone. For a pulse phone, type ATDP and the phone number. Do a carriage return and you should hear your modem dialing the number. Note, that the Hayes modem ignores spaces and dashes, so ATDT555-1212 and ATDT 5551212 will be the same. When your call goes through, the modem program will indicate "CONNECTED" on your screen. You will then see the entry messages and instructions for signing onto the system. Most CP/M BBS's will have an option to go to CP/M (or TPM) when you have finished looking at the messages. On the Epsonet boards typing the letter T

at the command line of the RBBS will take you to the TPM program area. You will see the familiar A]. You can type DIR and a control P (return), and get a print out of the directory on the A drive. You can do the same for all the drives and directories on the system. Remember that control P will also turn the printer off. Most of the bulletin boards have a "HELP" file that will give instructions about various procedures incorporated in the bulletin board program.

DOWNLOADING

When you have located a file that you would like to have on your own disk, you need to "tell" the BBS you want it. In this example, we will copy the file called SNOOPY.PIC (which prints out a picture of Snoopy on your printer). Type the following to let the host computer know you want a program file sent to you:

XMODEM S SNOOPY.PIC

This will initiate the transfer program called "XMODEM" on the BBS, and tell it to "S"end the file "SNOOPY.PIC". Do a carriage return after you type it. The BBS program will respond with information about how many minutes the transfer will take at 300 or 1200 baud, and give the size of the program. You now need to tell your own computer to receive the file. Hold down the control key and press the letter E. This will temporarily take you back to the command line of your modem program. Your screen will now look something like this:

A] COMMAND:

You will now instruct your computer to receive the file by typing RT SNOOPY.PIC and return. You can rename the file and call it something entirely different in this process. We could have typed RT DOGGIE.COM. After pressing return, the QX-10 will respond that it is waiting for the receipt of the program. You will see the record and hex numbers incrementing as it is transferred. You should see "Transfer Completed" when it is all done. You will then be back to the A] or B] of the BBS. You can now continue to transfer more files, or you can send one of yours to the BBS. Most BBS systems will not have files on them which can be executed while you are connected to them. Most files will have an extension like .CPM, .TPM or such to clue you in to what they are. When you transfer them to your computer you will need to rename them with a different extension like .COM or .SYS. Files with the ending of .COM and .SYS will run under TPM, but .SYS files will not run under your CP/M operating system.

UPLOADING

To send one of your files to the RBBS you will need to give the BBS the command to "R"eceive the file. XMODEM R SNOOPY.PIC, and then on your end follow as above, but tell your computer to "S"end the file ST DOGGIE.PIC.

When you are ready to disconnect, most systems just require you to type BYE at the A]. You will see a "DISCONNECT" "NO CARRIER" indication on your screen. To exit the modem program, type control-E. You will be back to the command line, and can exit by typing CPM.

This has been a simplified tour of the use of MODEM712. We will be following this up with more details in future articles. Communicating with other computers, BBS's, etc. can be a lot of fun and provide much enjoyment for you. We can only urge all users to please exercise courtesy and good taste when using a BBS system.

We are in the process of setting up a nationwide network of Epson RBBS/RTPM's for your use. The purpose of this endeavor is to provide you, the Epson user, a place wherein you can send mail, exchange ideas and programs, get free public domain software, and get help. This is just the start of a great year to come.

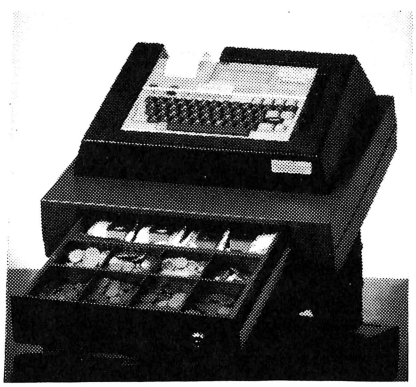
If you are unable to get a copy of one of these programs through your dealer, send $6.00 to any of the following :

Ralph G. Ruh, Sysop
623 Medill Avenue
Lancaster, Ohio 43130

Ron Spatafora, Sysop
4000 Mountain Pass
Plano, TX 75023

The Epson Connection
P.O. Box 14027
Detroit, MI 48214

Be sure to indicate which program you wish copied, and your return address.



PORTABLE CASH REGISTER

The HX-20 is being used as a cash register, keeping inventory on stock, providing full transaction printouts, and printed receipts. The company is looking for outlets in the U.S. If interested, give them a jingle. P & M Data Services Limited, 38 Woodnook Road, Appley Bridge, Nr. Wigan, Lancashire, England WN6 9JR. Phone Appley Bridge (02575)4545.

HX-20 Users, there is an incredible amount of software available for the HX in England (over 100 programs). Some of the Epson distributors are just beginning to think about bringing some of the software over here. Actively voiced interest will perhaps speed up the process.

Working With The HX-20 User Defined Character Set

The HX-20's User Defined Character Set can open up a whole new world for programers who wish to use it for high speed graphics or for special characters, such as math symbols. The user defined character set allows the user to define up to 32 characters. Each character is a 6 dot (wide) by 8 dot (high) matrix where any one of the 48 dots in the matrix may be turned on or off. The user defined character set can be very useful for games or utility type programs, but few HX-20 users take advantage of it. The reason why, is that most HX-20 users don't know how to define the characters, or those that do know, don't want to go to the trouble of breaking their characters into bit-image mode. If you fit into one of the above, you'll find the program listed with this article very handy. The program makes it easy for any one to define and use their own user defined character set.

Once you've entered the program and checked it over for errors, enter the STAT ALL command to see how many bytes are set aside for the RAM FILE. This program uses the first 192 bytes of the RAM FILE, so you will need to clear at least 192 bytes before you RUN the program ("CLEAR 200,192"). In addition, make sure that the first 192 bytes of your RAM FILE do NOT contain any data you may wish to keep. When you RUN the program, the program expects you to first select a character to edit. Use the arrow keys, up, down, right & left, to select the character you wish to edit. If this is the first time you've run this program, you may not see any characters displayed, or you may see garbage displayed. You will notice that both the character's ASCII code and the character itself are displayed in the center of the screen. When you find the character (or the code position) you wish to edit, push return. The program requires about 10 seconds to place the character into the edit buffer. When the Edit Function is ready, the crosshairs will appear. The arrow keys allow you to move the crosshairs to select a given dot position. The "[" key turns on a given dot and the "]" key turns off a given dot. As you turn dots on and off, notice how the character in the center of the screen also changes. Once you are through "drawing" your character, press RETURN to enter your changes into the user defined character set. Once the changes are entered, about 2-3 seconds later, you may select another character to edit. If you press "Q" instead of RETURN, you will exit the program without storing your changes to this character. "Q" allows you to Quit the program at any time.

Once you have defined all your characters, you will not need to keep a copy of this program in memory. All you need to do to use the program, is to copy line 10 of this program into your program. Line 10 tells the HX-20 that the user defined character set is located at the start of the RAM FILE area. It is also possible to define a second, third, and so on, character set. Just change lines 10-20 to read:

```
10 POKE &H11E,PEEK(&HA52)+n:POKE &H11F,PEEK(&HA53)
20 WIDTH 20,16:DEFINT A-Z:DEFFIL 1,n*256:S$=SPACE$(4)

WHERE:  n = 1 for the second file
        n = 2 for the third file
            and so on.
```

If you use more than 1 file, be sure to CLEAR 256 bytes for each file. "CLEAR 200, numofiles*256".

This program can be broken down into the following areas:

```
Lines 1 - 9  Are general program remarks.
Lines 10-20  Set the program Running conditions.
Lines 30-70  Allow the option of printing the help message.
Lines 80-180 Display the current user defined characters.
Lines  190-260  Allow  for  positioning  the  cursor  and
displaying the current character.
Lines  270-310 Display the new options once the character is
selected.
Lines 320-410 Place the  character  into the edit buffer and
display the character 3 times its normal size.
Lines 420-490 Display the crosshairs for  a  given  dot  and
call a subroutine that inputs a command.
Lines 500-550 Erase the crosshairs and change the center dot
of a given dot to be returned to its normal state.
Lines 560-590 Select the action for a user's command.
Lines  600-680  Places  the new character into the character
array.
Lines 690-740 Draws (or  erases)  a  given dot, depending on
which command is given.
Lines 750-840 Reads in a command (a key press) from the user
and will change X or Y if the key entered was an  arrow  key
and was within the limits of LX and LY.
Lines  850-1260  Prints  the  help  information  on  the
microprinter.


Variables Used:

S$     = A string of 4 spaces, used in lines 270-300.
X , Y  = The X,Y coordinate of a character or a dot.
X2,Y2  = The last (old) X,Y position.
LX,LY  = The Maximum limit for X and Y.
I,J,K  = Counters used in FOR - NEXT loops.
P      = The status of any given point.
CMD    = Command mode, 0 = Select a char, 1 = Edit a char.
A$     = The command (key press).
CH     = The current character being worked on.
C      = The bit pattern for a column of a character cell
         (The 6 X 8 Dot Character Matrix).
```

```
1 REM User Defn Character Utility for use on the HX-20.
2 REM This program will NOT work on any other computer.
3 REM
4 REM Use this program to design your own characters, then
5 REM copy the first non-REM line of this program into your
6 REM program in order to use the characters you designed.
7 REM TO PRINT THE CHARs: PRINT CHR$(n); ' n=224 --> 255
8 REM NOTE: This program uses the first 192 bytes of the RAM
9 REM File to store your characters.
10 POKE &H11E,PEEK(&H5A2):POKE &H11F,PEEK(&H5A3)
20 WIDTH 20,16:DEFINT  A-Z:DEFFIL 1,0:S$=SPACE$(4)
30 PRINT "Push SPACE if you"
40 PRINT "need help or RETURN"
50 PRINT "if you don't need"
60 PRINT "it. :";
70 IF INPUT$(1)=" " THEN GOSUB 860
80 ' CLEAR SCREEN, DISPLAY CHARACTERS
90 CLS
100 FOR I=0 TO 24 STEP 8
110 FOR J=0 TO 7:PRINT CHR$(I+J+224);:NEXT J
120 IF I<>24 THEN PRINT
130 NEXT I
140 LOCATE 13,0:PRINT "Select"
150 LOCATE 13,1:PRINT "A Char"
160 LOCATE 13,2:PRINT "& Push"
170 LOCATE 13,3:PRINT "Return";
180 X=0:Y=0:LX=7:LY=3:CMD=0
190 ' MOVE THE CURSOR, AND DISPLAY THE CHAR IT'S POINTING TO
200 CH=Y*8+X
210 LOCATE 9,0:PRINT USING "###";CH+224;
220 LOCATE 10,1:PRINT CHR$(156);
230 LOCATE 10,3:PRINT CHR$(155);
240 LOCATE 10,2:PRINT CHR$(CH+224);
250 LOCATE X,Y,1:GOSUB 760
260 IF A$<> CHR$(13) THEN 200
270 LOCATE 12,0:PRINT " CR";S$
280 LOCATE 12,1:PRINT CHR$(155);" ";CHR$(156);S$
290 LOCATE 12,2:PRINT "<->";S$
```

```
300 LOCATE 12,3:PRINT "] [";S$;
310 LOCATE X,Y,1
320 ' THE CHARACTER IS SELECTED, PUT IT INTO THE EDIT BUFFER.
330 FOR I=0 TO 7:PSET(96,I*3+5):PSET(115,I*3+5):NEXT I
340 FOR I=0 TO 5
350 PSET(I*3+98,3):PSET(I*3+98,28)
360 FOR J=0 TO 7
370 P=POINT(I+60,J+16)
380 FOR K=0 TO 2
390 LINE(I*3+97,J*3+4+K)-(I*3+99,J*3+4+K),PSET,P
400 NEXT K,J,I
410 X=0:Y=0:LX=5:LY=7:CMD=1
420 ' DISPLAY THE CROSSHAIRS FOR THE DOT.
430 LINE (92,Y*3+5)-(95,Y*3+5),PSET
440 LINE (116,Y*3+5)-(119,Y*3+5),PSET
450 LINE (X*3+98,0)-(X*3+98,2),PSET
460 LINE (X*3+98,29)-(X*3+98,31),PSET
470 P=POINT(X*3+97,Y*3+4)
480 LINE(X*3+98,Y*3+5)-(X*3+98,Y*3+5),PSET,1-P
490 X2=X:Y2=Y:GOSUB 760
500 LINE (92,Y2*3+5)-(95,Y2*3+5),PRESET
510 LINE (116,Y2*3+5)-(119,Y2*3+5),PRESET
520 LINE (X2*3+98,0)-(X2*3+98,2),PRESET
530 LINE (X2*3+98,29)-(X2*3+98,31),PRESET
540 P=POINT(X2+60,Y2+16)
550 LINE(X2*3+98,Y2*3+5)-(X2*3+98,Y2*3+5),PSET,P
560 ' SELECT ACTION FOR A USER'S COMMAND
570 IF A$="[" OR A$="]" THEN GOTO 700
580 IF A$>CHR$(13) AND A$<" " THEN GOTO 430
590 IF A$<>CHR$(13) THEN SOUND 1,1:GOTO 430
600 ' PUT THE NEW CHARACTER INTO THE CHARACTER ARRAY.
610 FOR I=0 TO 5
620 C=0
630 FOR J=7 TO 0 STEP -1
640 C=C*2+POINT(I+60,J+16)
650 NEXT J
660 PUT% CH*6+I,CHR$(C)
670 NEXT I
680 GOTO 90
690 ' DRAW THE DOT
700 FOR K=0 TO 2
710 LINE(X*3+97,Y*3+4+K)-(X*3+99,Y*3+4+K),PSET,A$="[" AND 1
720 NEXT K
730 PSET(X+60,Y+16),A$="[" AND 1
740 GOTO 430
750 ' READ IN A COMMAND.
760 A$=INPUT$(1)
770 IF A$="Q" OR A$="q" THEN CLS:END
780 IF A$>" " AND CMD>0 THEN RETURN
790 IF A$=CHR$(13) THEN RETURN
800 IF A$=CHR$(28) AND X<LX THEN X=X+1:RETURN
810 IF A$=CHR$(29) AND X>0 THEN X=X-1:RETURN
820 IF A$=CHR$(30) AND Y>0 THEN Y=Y-1:RETURN
830 IF A$=CHR$(31) AND Y<LY THEN Y=Y+1:RETURN
840 SOUND 1,1:GOTO 760
850 ' HELP INSTRUCTIONs
860 PRINT "Turn on the Micro-"
870 PRINT "Printer and Press"
880 PRINT "RETURN"
890 A$=INPUT$(1)
900 LPRINT
910 LPRINT "User Defn Char Utility"
920 LPRINT "Program, Written Nov 83,"
930 LPRINT
940 LPRINT "CHAR SELECTION FUNCTs:"
950 LPRINT
960 LPRINT "Use the Arrow Keys to"
970 LPRINT "select the character."
980 LPRINT "(The char's ASCII code"
990 LPRINT "is shown on the top"
1000 LPRINT "line of the LCD.)"
1010 LPRINT
1020 LPRINT "Return selects the char"
1030 LPRINT "to edit."
1040 LPRINT "NOTE: The program takes"
1050 LPRINT "10 seconds to enter the"
1060 LPRINT "character into the edit"
1070 LPRINT "buffer."
1080 LPRINT
1090 LPRINT "EDIT FUNCTIONs:"
1100 LPRINT
1110 LPRINT "Use the Arrow Keys to"
1120 LPRINT "move the crosshairs and"
1130 LPRINT "select a dot position."
1140 LPRINT
1150 LPRINT "[ Turns on  a given dot."
1160 LPRINT
1170 LPRINT "] Turns off a given dot."
1180 LPRINT
1190 LPRINT "Return enters the char"
1200 LPRINT "into the User Defn Char"
1210 LPRINT "set."
1220 LPRINT:LPRINT
1230 LPRINT "Q  Exits the Program at"
1240 LPRINT "any time."
1250 FOR I=1 TO 5:LPRINT:NEXT I
1260 RETURN
```

(303) 945-8686

TQ 20/20 - COMMODITY QUOTE-GRAPHICS

This new system provides undated commodities data and analysis for the serious broker or investor. The TQ 20/20 uses the Epson QX-10 as the heart of the system. It provides immediate access to the current trade information via satellite from all major commodities markets in New York City, Chicago, and Kansas City. The system utilizes the superb graphics capabilities of the QX-10 to provide bar charts, point and figure charts, spread charts, and analysis routines. The following analysis routines are available in chart form: Tick Volume, Moving Averages, Oscillators, Relative Strength Index, Directional Movement Index, Parabolic System, and On-balance Tick Volume.

Their modification of the QX-10 is available with two monitors. One monitor displays data in a tabular form while the other shows the graphic representation of the same data. This very sophisticated system provides data in a usable form at a fraction of the cost of comparable systems. With customer owned equipment, the TQ 20/20 System, including all exchange fees and transmission costs is as low as $395 per month. Contact: Commodities Quote-Graphics, Box 758, Glenwood Springs, CO. 81602.

Local Users Groups

USERS GROUPS–

We are listing Epson computer users that have indicated a willingness to start local groups, as well as groups that are already functioning. As your group gets started, please let us know so that we can list you as an actively functioning group. We will be keeping a column available for news notes from each of your groups, and would welcome articles from the groups for reprinting in this newsletter.

Epson America, Inc. has committed themselves to assisting users groups. Margret Johns, manager of communications/computer products division of Epson is the contact person. She is currently developing an Epson User's Group Starter's Kit, to enable groups to become officially endorsed Epson User's Groups. The kit is to include:

Suggestions on starting a Users Group.
Epson's Electronic Newsletter for User Groups
Subscription to the Epson News Service and Monitor
Upcoming product News
Epson product utility programs
Consumer computer show passes
Discounts on Epson endorsed books, Programmers' guides, service manuals, etc.
Regional mailing lists of dealers, other User Groups and end-users.
Notification of position openings with Epson and with their distributors
Epson "experts" to speak at your meetings
The chance to send delegates to an annual Epson U.G. Conference

The implementation date set for this support from Epson America is February 1st, 1984.

** Indicates the group is just forming.*

Washington DC

Washington D.C. QX Users Group
Steven Weber
Washington DC
703-790-8842

New Hampshire

*Lonny J. Brown
Box 83 Old Mountain Road
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603-547-3422

Connecticut

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Milford, CT 06460
203-878-4877

*A. Donald Duncan
228 Thornwood Rd.
Stamford, CT 06903
203-322-6072

New Jersey

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Printer Corner

MAILING LIST MANAGER

Richard Rockwell
Technical Support
MidAtlantic Computer Prod.

You can send control codes to the printer to set it for certain typestyles before beginning printing of mailing labels with Mailing List Manager under CP/M.

When you follow this procedure, a few characters will be printed on the first label. For this reason, it is a good idea to insert a test label into your address file (you could use "Aaa" for the name or first sorted category, so this will be the first label printed). This will also allow you to be sure your labels are lined up properly in the printer.

Procedure:

Before you boot-up Mailing List Manager, at the "A]", type CTRL P. This will send the characters you type to the printer. Type in the control codes (as listed below), hit RETURN, then type CTRL P again. All labels will be printed in the typestyle you have selected until you turn the printer off or clear the printer of control codes by typing ESC @. Now that the printer is set, type ML to start Mailing List Manager, and proceed as usual to produce a mailing.

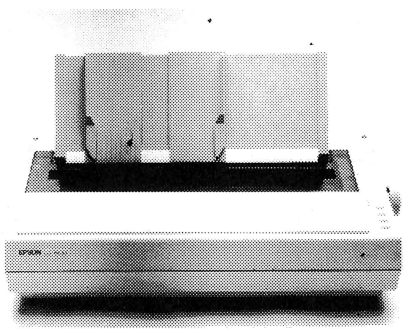
The following are control codes you can enter to get the corresponding typestyles (the ESC key refers to the MAR REL key on the QX-10 keyboard). Enter the control codes without spaces. Use capitals where specified. When you type ESC, it will appear as ^[on the screen.

MX, RX and FX Printers:

Emphasized	ESC E
Italics	ESC 4
Emphasized Italics	ESC E ESC 4
Compressed	ESC CTRL O
Initialize printer	ESC @

RX and FX Printers Only:

Elite	ESC M



DOT MATRIX PRINTER

Epson's new 24-pin printer, the LQ-1500, delivers letter quality at three times the speed of daisy wheel printers, and has the following features:

Print Method— dot matrix, serial, parallel, and IEEE 488 can be supported.
Pins in Head— 24
Print Modes— draft, letter quality and graphics.
Print Rate— draft 200 CPS (10 CPI) Letter Quality 67 CPS (10 CPI)
Print Direction— Bidirectional with logic seeking in the text mode; undirectional in the bit image modes.
Line Spacing— 1/6 inch or programmable (minimum value 1/180 in.)
Character Set— Full 96 character ASCII with 11 international character sets.
Paper Feed— Friction standard, includes single sheet feed, tractor feed optional.
Input Buffer— 2KB available on all interface units.
Form Feed— Programmable to 255 lines.
Horizontal Tab— to 32 positions.
Vertical Tab— to 16 positions at 8 channels each.
Physical Size— 5.1 in. high, 23.8 in. wide, 14.3 in. deep; weighs 30.9 lbs.
Typestyles— all the usual; normal, enlarged, condensed, condensed-enlarged, elite, elite-enlarged, elite-condensed, proportional, proportional-enlarged, as well as sub and superscript. These typestyles may be changed in mid-text.

Proportional.
Superscript.

Italic Pica.
Subscript.

Double Elite.
Condensed Double Strike.

Downloadable characters or symbols— allows 128, contains the standard 96 character ASCII set, 32 international characters and 96 italic characters.

Expected to retail for under $1500, this new printer should be available in the second quarter of 1984.

PRINTER COMMENTS

To do down-loaded graphics with the FX printer, please note a correction- the buffer must be turned off - That is, the dip switch 1-4 should be off like it comes from the factory. The CR2 has a permenant buffer. It has a special ROM put together especially for interfacing with the keyboard attachment. Some of the codes sent from early Valdocs print modules created problems in the timing loop after a carriage return, sometimes creating the loss of a character, or the appearance of a creeping margin. As mentioned in previous issues, during the setup, you are advised to indicate the printing speed as 36 or more characters per second. This will help take care of the problem.

Using the Valdocs Mail Program to Receive Files

by Russell C. Pillsbury, Rising Star Industries

There are a great many CBBS (Computer bulletin board systems) that are accessable to anyone who has a computer and a modem. These systems allow callers to leave and receive notes, get information bulletins and receive or place program or data files on the bulletin board's disk system. Most of the programs available are programs which are in the Public Domain. That is, they may or may not be protected by copyrights. If they are copyrighted, then they may not be copied for resale. However, once they are in the Public Domain, they will always be free for the taking. You should expect to pay a service charge for copying, plus cost of materials if you are getting some of these programs from a dealer or through the mail.

Using the QX-10 to access and receive program and data files is very easy. It is done through the MAIL portion of the Valdocs programs. It is necessary to have a modem that is compatible with the mail software. The Hayes smartmodems, both 300 and 1200 baud versions, will work just fine. Here is how to use it.

Your modem must be compatible with the mail software

1. Press the MAIL key and wait for the mail program to load.
2. Select the Person to Person selection on the mail menu.
3. Enter the number to dial, or use an address card that you have already set up for the BBS.
4. When the Bulletin board system answers, you can operate it just as if you were connected with a terminal. When you get ready to down-load (receive a file) you have to execute a special version of a modem program on the bulletin board system. This program is usually called XMODEM, and it is necessary to specify the name of the file you wish to receive on the command line where you invoke Xmodem. If you wanted to receive a file named NUMBERS.ASC, for instance, you would type the following:

XMODEM S NUMBERS.ASC

This tells Xmodem to send the file. The commands for Xmodem are the same as for the MODEM7 program and all of its subsequent versions.

After executing Xmodem, it will then tell you some data about the file, such as file length and perhaps the send time that will be required. Then it will announce that it is waiting for the initial NAK. At this point, you must press the UNDO key. You then select RECEIVE A FILE in the mail menu. Mail will then receive the file and place it on your data disk. While receiving the file, you will see a count of 128 byte record blocks that have been successfully received on your screen in the interaction window. When done receiving the file, you select the TALK PERSON TO PERSON menu selection and continue interacting with the bulletin board to handle any other business you have.

The file that you received will be stored on your data disk with a name that has been assigned by Mail. That name is coded with the date and a special number to make it unique so that it cannot possibly have the same name as any other file that might already be on your disk. To change the name or store the file on a different disk, go into the INBASKET of mail. Using the menus there, you can specify that the file be stored using the original name that it had on the bulletin board, or any name you choose.

If you want to send a file to a bulletin board, you use the same procedure except when executing Xmodem, you would use the command:

XMODEM R NUMBERS.ASC

Public Domain programs are free for the taking

Then when Xmodem says it is ready to receive, you would press UNDO and select SEND A FILE from the menu. Mail will then ask you for the file name to send, and then send it. Then you again go into the Talk mode to conclude your interaction with the bulletin board.

Mail will allow you to send indexed files that were created with the Valdocs text editor, but remember that only a system running Valdocs software can read them. This is because of the imbedded sequences in the files that control all of the fancy features, such as italic, bold, underline, margins, etc. Therefore, if you want to send a text file for everyone to read it must be created with a text editor that does not use special imbedded codes. Of course, if you are sending to a QX-10 system, then there is no problem.

COPYLINK FOR THE QX-10

Copylink is a communications program that allows error free file transfer between different computer media. There is no restriction on the type of file being transferred. This is a flexible system, and a complete terminal program. Telex and TWX users can eliminate a teletype machine by using Copylink and their personal computer. For more information contact, U.S. Digital Corp., 5699-D S.E. International Way, Milwaukie, OR 97222.

Hardware

CAMEO HARD DISKS

Cameo announced the release of its new Series 5 High Performance Ram Cache Hard Disk Systems. Cameo multiplexor systems allow up to 8 separate users to share up to 160 Mbytes of hard disk storage. This system was demonstrated with two Epson QX-10's sharing a common hard disk. Users can access common shared peripheral items, such as hard disks, printers, and modems. The new high speed serial multiplexor houses a 68000 microprocessor. It uses a twisted pair of cables, driven at 4 mbits/sec for a distance of up to 2000 feet between the computer and the multiplexor. Cameo's lower priced parallel multiplexor will still be available for short distance systems. The diagnostic utilities demonstrated were very complete and appeared well done.

Costs will vary depending on the system being set-up. An example system with a 24MB (formatted) hard disk for four QX-10's would cost approximately $5995. excluding the QX-10 computers. This system includes a multiplexor to handle the four computers, the hard disk drive, and all internal cards for the computers. They have 8 in. and 5 1/4 in. hard disk drives, as well as cartridge disk packs. Cameo offers two parallel multiplexors, a four port and an eight port. For more information contact Cameo Electronics, Inc., 1626 Clementine St., Anaheim, CA 92802. 714-535-1682.

INTERNAL BOARD

One of the show stoppers at the COMDEX show was the Epson QX-10 running Lotus 1-2-3 by Titan Technologies. Titan was formally known as Saturn Systems. They have produced an internal board for the QX-10 with the 8088 processor and 256K bytes of memory. The board allows the QX-10 to run 16 bit software like Lotus 1-2-3, Visicalc, and other MS-DOS programs used by the IBM PC. The board uses the Z80 as a slave to handle some of the input output functions. The titan board operates at 5 MHz, and has a low power consumption of less than 1 amp.

When not in use, the board is transparent to the computer and Valdocs and CP/M are used as usual. Graphics and printer and serial port options are supported for use with the MS-DOS programs. Optionally the board can have 512K bytes with a separate option card.

One of the most frequently asked questions is, "Can I take my friend's IBM disks and simply insert them in the drives of my Epson and have them run?" The Titan company is including software patches which will enable you to do this. They claim that all the MS-DOS programs will run, and about 90% of the PC-DOS programs. They have used WORD, by Microsoft, quite successfully. The suggested retail price will be around $800, scheduled release is expected in February or March.

QuCeS NEW 10M HARD DISK

QuCeS introduced their new 10 Megabyte (formatted) fixed 5 1/4 inch hard disk drive. The drive, called "Bev", is only 3.9 inches high by 6 inches wide, and 13.5 inches deep. Bev has one platter, two recording heads, and transfers data at 5. Mbits per second. Access time is 8.33 msec. Seek time is 3 msec, with an average of 120 msec. She rotates at 3600 RPM and has a list price of $1995. For more information, contact Quality Computer Services, 3 Quces Drive, Metuchen, NJ 08840.

HARD DISK & MICRO-MULTIPLEXOR

The ICE Microcube mass storage system and ICE Star system hard disk micro-multiplexor were demonstrated at the Comdex show. They have the following hard disk file serving drives (formatted) with accompanying prices: 5M-$2195, 10M-$2615, 21M-$3310, and 42M-$3900. There is also a tape streamer back-up system that is scheduled to be available in January for $2598. This will back up 21Mb in 4 1/2 min., off line from the computer. The micro-multiplexor allows up to 8 micro-computers to share their hard disks. Two of their hard disk drives may be connected with up to 84 MB of storage, and up to 16 users may access them. The 8 bit parallel multiplexor allows a 200 Kbytes data transer rate without the software overhead of a network contention system. The list price suggested for the multiplexor unit is $1342 and $150 per user computer hooked up. User stations can be located up to 450 ft. maximum from the multiplexor unit. Our sample system of 4 users with a 21M hard disk drive unit would run approximately $5300. We will review this system in a future issue. For more information contact Space Coast Systems Inc., 301 S. Washington Ave., Titusville, FL 32796.

MICROMITE COMPUTERS

Micromite introduced their file-server hard disk drives and local area network system with the Epson QX-10 at the Comdex show. The fileserver houses a 10, 20 or 40 Mb winchester disk drive, with an optional streamer tape drive of 20Mb. The unit includes a diagnostic control panel and intelligent controller. The local area network system with this fileserver system allows simultaneous file/record sharing to as many as 254 CP/M based micro-computers. The system has a file lock, allowing a user to lock out files from other users. Up to 3 additional drives may be added to the system. The micromite uses a Z80 processor with 64K bytes. Communication speed is at 625Kbits per sec. The system will work with any CP/M based computers, and was demonstrated with an Epson QX-10, an Apple, and a Sanyo. This sytem is made in England, and they are currently seeking distributors. For more information contact, Micromite Computers, Regency House, 2 Rockstone Place, Southampton, S09 1BG United Kingdom. Pricing varies with the currency exchange rate—a typical system for 4 micro-computers with a 20M fileserver is around $8200.

Software

PEACHTEXT 5000

Referred to as an advanced personal productivity series, the package includes PeachText, Random House Electronic Thesaurus, Spelling Proofreader, Peach Calc Electronic Spreadsheet, and List Manager. List Manager allows users to define and control mailing lists and other personal data bases. Black's Law Dictionary and Stedman's Medical Dictionary are also available to work with this series. The proofreader contains a 20,000 word dictionary that can check spelling and typographical errors in a 10,000 word document in less than two minutes.

The demonstration at the Comdex Show, revealed many improvements over the original Peachtree series 9. There are different menu screens, more print options, and much more flexibility. The suggested retail price is $395, is produced by Peachtree Software Inc., and marketed through the Epson dealer network.

Your editor was informed by the Peachtree technical support staff that, the Mailing List Manager Series 9 data files are, unfortunately, not transferable to the PeachText 5000 mailing list. It was also mentioned that some problems have been encountered when running some of the Peachtree programs under TPM— let us know.

MAG/base

Copyright by Mag Software Inc. 1983. This is a database program available for the QX-10 and comes in four levels: 1) is a personal filing system and forms generator. 2) has all of the features of No. 1 plus a relational report writer program allowing computations, comparisons and sorting of fields of data. 3) adds comprehensive programming aids, screen management functions and entry and edit functions and has uses such as job costing, payroll, general ledger, inventory control, client billing etc. 4) adds on a level of multi-user functions to the previous levels. Suggested prices are: 1— $295, 2— $495 and 3— $795 (No. 4 is not yet available). For more information contact MAG Software Inc. 21054 Sherman Way No. 305, Canoga Park, CA 91303.

CRTXE— A CRT Multiple Emulator

This is a network workstation system that allows 30 types of microcomputers (QX-10 included) to communicate with mainframe computers. It uses Xmodem or binary transfer. Some of the types of mainframes it will allow you to communicate with are; VT-100, VT-52, IBM 3101 and Honeywell 7200.

Volume discounts are available to users groups. The program retails for $250 and can be obtained by contacting Henson Systems, Inc., 4127 S Olathe Way, Aurora, CO 80013.

MILLIONAIRE

A stock market simulation game by Blue Chip Software, Inc., 19824 Ventura Blvd., Suite 204, Woodland Hills, CA 91364. This has been an exciting game and will be reviewed along with; Tycoon (commodities market), Baron (real estate), and Squire (financial planning) in a future issue. The suggested retail price for each is $59.95. Ordering can be done through your local dealer.

MAIL MERGE

A user friendly system that allows a QX-10 user to merge addresses from the Peachtree mailing list with Valdocs letters. Features include the ability to merge as many pages as wanted in a multiple page letter. The program is used with Deval, your Peachtree mail list file and a letter housed in Valdocs. Price is around $35. For more information contact Terri Chateau, P.O. Box 446, Lilburn, GA 30246.

MAIL ORDER SOFTWARE FOR QX AND HX PRODUCTS

We have been asked so frequently about software sources where a dealer doesn't carry what you are looking for. I am sure we will see alot more, but in the mean time, here is one source that you can use. Compuprod, Inc., 2701-C West 15th St., Suite 510, Plano, TX 75075. Write for a free catalogue, or download the file product information from his BBS, 214-881-0313.

GAMES FOR THE QX-10

CONVOY— A fast action game with you flying a plane over a convoy. You have bombs to hit the convoy with, and laser guns on the plane to shoot down helicopters and ducks? which attack. When shot down, you can eject before crashing and parachute to safety. This is a favorite with our 3 to 7 year old review team.

UNDERGROUND CITY— This is a unique game with graphics details only the QX-10 can produce. An entire city lowers undergound and is protected by doors which are bombarded by alien attackers. You defend with laser guns. This game requires some real skill to line up the cross hairs of the laser guns on the moving targets. This is a very popular game with the teenage review group. A joy stick will make this easier to target.

BUMPER CARS— While driving a bumper car, you must force the other cars off into specified areas. You can leave an oil slick to help throw off the other cars. This is popular with all the reviewing age groups.

LASER TANKS— A fast action game where you must shoot attacking objects and other tanks before you yourself are lasered. Fun for all ages.

The games, which retail at $44.95 each, all involve unique sound effects. We give them a star rating and hope you drop into your dealer and try them.

We look forward to a version of Asteroids, Speed Reader and other exciting programs to come. There are two educational games available for $49.95 each, Math Professor and Typing Professor which will be reviewed in a future issue. For more information on any of these programs, contact Acorn Publishing, P.O. Box 4008, San Pedro, CA 90731.

Questions & Answers

Q— Does the 16K RAM memory expansion box for the HX-20 double the size of documents I can write or store on the microcassette using Skiwriter? Or does it only apply to BASIC? Tom Wilson, Toronto, Canada
A— No, infact the 16K expansion only has about 8K left with Skiwriter installed. A unit without the expansion memory only has about 1K available. Delta Distributing, one of the Epson Distributors is working on a switch on the side of the expansion unit to enable or disable skiwriter easily. More information on this in the next issue.

Q— I would be interested to learn if there is any software program tailored to the QX-10 which would enable me to type in Cyrillic (for Russian, and other Slavic Language Texts). Joseph Conrad, Lawrence, KS.
A— There is a program called Fancy Font, by SOFTCRAFT, 8726 South Sepulveda Blvd., Suite 1641, Los Angeles, CA 90045. 213-641-3822. This is referred to as a personal typesetting program. Styles included are Roman, Sans Serif, Script and Old English, and the opportunity to create your own letters.

Q— MBASIC allows you to protect a file with (SAVE) "name, P. How do you UNPROTECT that file, or delete it?
A— Reload the program using MBASIC and save it under another name. Your other option is to use the ERA command and delete the file. There are programs to unprotect files, but this should do the job for you. William Browder, Sr., Atlanta GA.

Q— Where exactly do I find Microprocess Computer Systems to find out about the Smart Terminal Program for the HX-20?
A— Their address is: 13500 Reeck Road, Southgate, MI 48195.

Q— How can I cancel the FORMFEED that comes down the line with each Valdocs PRINT command? How can I delay it until I'm ready for it?
A— In the print menu options if you deselect the roll up to the tear off bar choice, you will stop the extra paper feed problem. Many users seem to be unaware of this option in the setup menu.

Q— What are the advantages of the QX-10 over the IBM/PC? Rev. N. Marstrini, Tequesta, FL.
A— Currently there are no programs for the IBM that have integrated all the features that Valdocs provides. The graphics capabilities of the QX-10 surpass that of the IBM/PC, and the internal hardware of the QX-10 is superior. There is also a larger storage capacity on the floppy disk drives on the Epson. The last thing to look at is the EASE OF USE, and the special application keys on the QX-10.

Q— In the NOV/DEC issue you stated that the Modem 7 communications program is a public domain program and should be available from our local dealer. I struck out. I need it in order to down-load software from the local and other BBS. Where can I get it? Thomas Winslow, Troutman, N.C.
A— Using Valdocs mail you can down load Modem 7.98 or one of the others that are newer versions (7.12,–7.15). You will find it on our Epsonet RBBS/RTPM boards mentioned in this newsletter.

The Epson Connection is a bi-monthly Newsletter distributed to members of the Epson Users Group. Membership fee is $15.00 U.S., $18.00 Canada for one year.

All inquiries regarding membership; editorial suggestions; problem solving; questions; programs or information about forming a local Users Group should be sent to THE EPSON CONNECTION, P.O. Box 14027, Detroit, Michigan 48214.

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